

DT04 Rec'd PCT/PTO 22 SEP 2004

## AMENDMENTS (ARTICLE 34)

[Received by the Japanese Patent Office on May 13, 2004.]

1) Title of the invention "TITANIUM-MADE PLATE-TYPE HEAT  
5 EXCHANGER AND PRODUCTION METHOD THEREOF" is amended to  
--PRODUCTION METHOD OF TITANIUM-MADE PLATE-TYPE HEAT  
EXCHANGER--

2) Words "a titanium-made plate-type heat exchanger and production  
method thereof" on page 1, lines 7-8 are amended to --a production method of  
10 a titanium-made plate-type heat exchanger--.

3) Words "(1) A titanium-made heat exchanger" on page 2, line 17 is  
amended to --(1) A production method of a titanium-made heat exchanger--.

4) Words "(hereinafter referred as "heat exchanger")" on page 3, lines 4-5  
are deleted.

15 5) Paragraph on page 3, lines 6-16 are amended as follows.

And a production method of a titanium made plate-type heat  
exchanger provided by the present invention in which flow paths of a first  
fluid and flow paths of a second fluid alternately arranged such that heat can  
be exchanged between the two fluids, wherein the production method for  
20 forming the flow paths by connecting a titanium-made flat container having  
an inlet of one of the fluids formed on one end and an outlet of the fluid  
formed on the other end to an offset-type titanium plate fin accommodated in  
the flat container and connected to the inner side of the container via top  
ends of concave strips of the titanium plate fin so as to form a plane to plane  
25 connection, comprising steps of: coating a brazing paste over positions to be  
connected of the constituting members by using a paste supply machine,  
wherein the brazing paste is prepared by atomizing an alloy comprising a  
Ti-Zr type brazing solder, which melts under 880°C, containing 20 to 40 wt.%  
of titanium and 20 to 40 wt.% of zirconium so as to obtain a powdered alloy,  
30 which is mixed with a neutral binder so that said paste is prepared; and  
heating the brazing solder coated constituting members under 880°C in an

vacuum and/or inert gas atmosphere.

6) A new paragraph, as follows, is added on page 4, line 13.

Particularly, the production method by the present invention employs the paste-type brazing solder, since alloys used for the brazing solder by the present invention have high hardness and very low malleability, they can not be obtained in the form of a plate or a bar. Therefore the alloys are atomized in Ar gas atmosphere to obtain powdered alloys, which are mixed with the neutral binder to obtain the paste, which is supplied as the brazing solder to portions to be connected by utilizing the paste supply machine.

7) Words "of a preferred embodiment of the titanium-made plate type heat exchanger" on page 4, line 16 are amended to --of the titanium-made plate type heat exchanger obtained by a preferred production method--.

8) Words "by the embodiment" on page 5, line 1 are amended to --obtained by the production method of the preferred embodiment--.

9) Words "the heat exchanger by the embodiment" on page 5, 17-18 are amended to --the above-mentioned heat exchanger--.

10) A new paragraph, as follows, is added on 7, line 17

Both brazing solders contain mainly titanium and zirconium. In other words, Ti-Zr alloys are employed as the brazing solders. TAB.1 indicates that a brazing solder containing no Ni metal such as No.1 product can be used as a brazing solder and rather small amount of Cu metal is required as a constituent of the brazing solders.

11) Claim 1 is amended as in the attached sheet.

12) Claim 2 is deleted.